THE ACCOUNTING THEORY OF REVENUE CHARGES

BY

YEE-CHUING CHOW

B. C. S., Fuh-Tan University, Shanghai, 1927

AN ABSTRACT OF A THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN
ACCOUNTANCY IN THE GRADUATE SCHOOL OF
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ACKNOWLEDGMENT

Grateful acknowledgment is made to Professor A. C. Littleton for his friendly guidance and continuous encouragement throughout the preparation of the thesis from which this summary is abstracted.

THE ACCOUNTING THEORY OF REVENUE CHARGES

The study of revenue charges is a part of the study of business income. As one factor—the deduction factor—in the formula that defines periodic income, revenue charges have been conceived by modern accountants as a homogeneous category consisting of all the property expirations connected with the securing of periodic revenue. The different elements of revenue charges, however, have been variously treated in the prevailing practice of accounting; sometimes as problems of asset valuation and of "cost amortization;" sometimes as problems of distinguishing between the so-called revenue expenditures and capital expenditures; and again as problems of separating variously and vaguely defined categories of costs, expenses, losses, and surplus charges. The unknown quantity of net income is considered as automatically revealed as a result of deducting a hodge-podge of value decreases, "cost expirations," money expenditures, and anticipated expenses and losses from the transactionaly determined revenue from sales. Income, in other words, is assumed to be simply a differential quantity with its meaning undefinable or left undefined.

Present-day accounting theory recognizes the homogeneity of the different cost elements entering into income determination and treats the problem of revenue charges as essentially one of "cost amortization" rather than valuation or a combination of valuation and amortization. The notion of cost, however, has been so variously defined in accounting theory (either positively as initial value, conservative value, going concern value, indirect valuation, present value of future services; or negatively as value sacrifice, money expenditure, property sacrifice in its several financial and physical senses; or quantitatively as the amount of bargain price or of cash price,) that the definition of revenue charges in terms of over-all cost of periodic revenue fails to convey any definite meaning or to serve as a guiding concept in evaluating standards and procedures of revenue charges accounting.

While practicing accountants and accounting teachers argue whether accounting procedure should be guided by (a) practical considerations, conventions, and policies, with an

emphasis being placed on sound business judgment, conservatism, and flexibility, or (b) by theoretical considerations, general principles and standards, with emphasis on objectiveness, consistency, and accuracy, at the same time economic writers and accounting critics complain that both accounting theory and practice are full of inconsistency, falsity, and other shortcomings in the area of income accounting.

The severest charges thus far made against accounting theory and practice are: (1) accountants have no definite and logical concept of income[1]; (2) historical cost, as such, so religiously adhered to by accounting theory and practice alike is theoretically no sound basis for either income or capital accounting[2]; (3) the problem of depreciation has never been logically defined and the figuring of periodic depreciation on a straight line basis regardless of business volume or activity tends to create artificially constant cost figures over the years which in turn creates artificially fluctuating profit figures[3]; (4) the accounting doctrine of non-recognition of unrealized gains and losses even on current value type of assets tends to shift gains and losses from the periods of their incurrence to the periods of their conversion to liquid assets and thereby also tends to exaggerate the fluctuations of profit and loss figures during alternate periods of rising and falling prices[4]; and (5) accounting in so far as it tends to create artificial fluctuations of calculated profits and losses is responsible for aggrevating the undesirable swings of business up and down[5].

In evaluating the conflict between accounting theory and

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[1] Canning, J. B., *The Economics of Accountancy*, p. 160
Fabricant, S., *Capital Consumption and Adjustment*, pp. 26-29.

[2] Canning, J. B., *The Economics of Accountancy*, p. 255.

[3] Bonbright, J. C., "Depreciation as an Accounting Category," *The Accounting Review*, 1936, p. 117.
Canning, J. B., "Depreciation in Burden Estimates," *National Association of Cost Accountants Bulletin*, Part I, Vol. 11, 1929, p. 1.

[4] Cotter, Arundel, *Fool's Profit*, pp. 14-19.

[5] *Ibid.*, pp. 13-14.
Buchanan, N. S., "Toward a Theory of Fluctuations in Business Profits," *American Economic Review*, Dec. 1941, pp. 731-53.

practice and the validity of the charges against them it was found that both theory and practice of revenue charges accounting are in an unsatisfactory status largely because of the general confusion and controversy over such central points, among others, as the meaning and significance of business income; the proper method of approach to the measurement problem of income; the essence of the accrual, or revenue and expense, method of approach; the nature and elements of revenue charges; and the acceptable criteria and standards for allocating particular portions of costs as being the cost of particular quantities of revenue. In fact, in the problem area of fixed assets and depreciation, inventory and production cost of revenue, selling cost of revenue, losses, and surplus charges, accounting theory with its none too well crystallized concepts and standards is so far removed from economic reasoning and from the "generally accepted accounting principles" dictated largely by practice as the geometry of Euclid and non-Euclid. The question may therefore be raised as to whether there could be a system of "non-Euclidean" theory of accounting in part as an antithesis of orthodox theory and in part as a synthesis of orthodox accounting theory, accounting practice, and economic theory.

The question can be best answered by starting with orthodox accounting principles and standards which represent in a general way the traditional position on a number of central points related to revenue charges and income accounting, and then converting, broadening, or restating them. This is done with no idea of denying that these orthodox propositions state accounting truths, but in order to raise the question of whether their antitheses do not contain accounting truths of even wider application and can not be more easily reconciled with accounting practice and economic reasoning.

The following propositions, it is believed, may be considered as fairly expressing the usual ideas about revenue charges.

1. Business income is a gain in enterprise assets, during a period of time, measured by the excess of incoming assets, representing revenue and other sales proceeds, over the total of outflowing costs representing revenue charges and other deductions.
2. Income accounting deals with two kinds of monetary

or price measures, one positive and one negative. The positive measure is the actual bargain prices of enterprise products and properties sold. The negative measure is the actual bargain prices of properties purchased or of portions of such actual bargain prices functionally assigned as cost of manufacturing, general administration, selling, etc.

3. Revenues are recognizable when realized through the sale of enterprise products and are measured by the sales prices indicating the amount of new assets received from outsiders.
4. Revenue charges are the cost of securing revenue and are measured by the sum of the assignable actual prices of (1) services and service agents that have become embodied in the enterprise products sold, and (2) services and service agents expired in connection with the sales.
5. Depreciation is the cost of fixed tangible properties consumed in the business process and is measured by the assignable actual prices of the service content or service life of properties expired as a result of use, passage of time, and technical progress that renders the properties economically less effective.
6. Inventories are the cost of property elements (material, labor, and factory overhead) embodied in the existing stock of enterprise products in their various stages of completion. To interpret inventories as current value type of asset, to use any replacement or selling market or combined cost and market bases of inventory valuation, or to assume any pattern of flow of materials and goods through the enterprise not substantially in accord with the actual pattern of flow—these tend to misfigure the cost of goods sold element of revenue charges. They introduce unrealized gains and losses into the income figure and are therefore objectionable.
7. Distribution costs are the cost of properties consumed in the process of converting finished products into new assets; they are not assignable to product cost as such, but separately inventoriable to the extent that the effect of such costs upon sales or revenue lies clearly in future periods.
8. The periodic income account should reveal all changes in assets currently recognized except (1) those resulting from purely capital and equity transactions, and (2) those belonging clearly to gains and losses of the past periods now to be adjusted directly through sur-

plus and to be duly disclosed.

These orthodox propositions will now be examined briefly.

1. Business income is a gain in enterprise assets, during a period of time, measured by the excess of incoming assets, representing revenue and other sales proceeds, over the total of outflowing costs representing revenue charges and other deductions.

Orthodox accounting theory defines business income in terms of changes in enterprise assets. This is more understandable than defining income as changes in such abstract terms as proprietorship or equities. Yet since asset is an investment category and since investment as such does not come in, the definition is correct only in describing what income is represented following its receipt. It is also correct technically to define income as proprietorship or equity increase. Both of these technically correct definitions, however, do not really define the essence of income or explain the substance the receipt of which constitutes income. Uncertainty and controversy naturally develop in the attempt to measure the income quantity when the meaning and essence of the thing to be measured is undefined and in dispute. This leaves the door open to challenges such as that by the adherents of last-in-first-out and base stock methods of inventory accounting that income is not just a bookkeeping measure of asset increase, nor even a measure of current asset increase, but that income is the portion of the bookkeeping measure of current asset increase which is actually distributable as a physical gain after maintaining a physical level of income producing agents.

It should be noted that basically income can be defined only in limited terms of psychic benefit, service gain, service and commodity gain, commodity or physical property gain, or value gain. Since psychic benefit and service gain are not proper levels of analysis in business reckoning, income must be defined in the ultimate terms of either physical property or value gain. In so far as the "distributable" concept of income defines income as a periodic gain in something physical and distributable, it is more logical than to define income in technical terms of assets or equities which strictly constitute no level of analysis. But in spite of the soundness and

sometimes the desirability of figuring income as a physical gain, the enormous practical difficulties of reckoning the whole property structure as a group of physical things or their service equivalents preclude the consistent application of such a concept.

It is submitted that the essence of business income is value gain, not because this is the only logical alternative to the physical concept, but because the substance the incoming of which constitutes business income is always a quality of positive value to the recipient, and because both in business and in accounting income has been approximated as a value gain. Accounting theory, while also insisting on value realization as a test of income and on objective determination of value gain by the sale transactions, has inconsistently refused to define income in terms of value gain. The reason is that while income is a periodic value gain, accounting has no way of expressing this dynamic value change except in terms of its effect upon the static categories of assets, proprietorship, or equities. Also, accounting theory hesitates to define income in terms of value gain because such a definition opens the door to all kinds of subjective appraisal of property value in income determination and tends to produce income figures which are purely conjectural and of little or no practical significance.

In attempting to avoid subjective valuation in income determination, accountants often offer the qualified definition of income as value gain of certain realized forms. The real task of defining income as a guiding concept for practical approximation, however, is not to delimit the scope of income as value gain of some particular form, but simply to set up standards of objectiveness and accuracy in measurement—standards which are consistent with the requirements of a scientific measure and of the practical purposes of income calculation. In other words, income as a periodic gain should be given a quantitative definition of how it is to be measured as well as a qualitative definition of what it is.

The proposed alternative definition, as given below, accordingly characterizes income as a periodic value gain. The quantitative definition of value gain will be outlined in subsefluent propositions.

a. Business income is a periodic gain measured by the excess of value of enterprise products and other properties, ascertained through sale or evaluation, over and above the total assignable cost of the same products and properties sold or evaluated.

2. Income accounting deals with two kinds of monetary or price measures, one positive and one negative. The positive measure is the actual bargain prices of enterprise products and other properties sold. The negative measure is the actual bargain prices of properties purchased or portions of such actual bargain prices functionally assigned and classified as cost of manufacture, general administration, selling, etc.

The essence of orthodox proposition no. 2 is that (1) ac-accounting deals not with values but with sales prices; and accounting deals with not values but with sales prices; and (3) accrual accounting is essentially a process of matching two streams of bargain price measures accompanying actual business transactions.

The antithesis to the proposition that accounting does not deal with value has already been suggested by the discussion on the first proposition. Since the essence of income is gain in something of positive importance to the recipient business, and since accounting is designed to measure that gain in monetary terms, it deals with value of some kind. Whether the thing gained which constitutes business income is a value gain in the true and scientific sense of the term is a question of further defining the particular kind of value which constitutes income value and of differentiating this income value from other kinds of value. It is submitted that value in income accounting is the positive importance of properties in view of their monetary productivity to particular business and is measured as a quantity of money units realizable from particular properties in the course of business. This is strictly in accord with the business conception of property value, with the concept of value implied in the accounting approach to the measurement of business income, and is also in harmony with the concept of economic value as future productivity to the property owner.

Accounting deals not simply with monetary or price measures as such, but with measured qualities; revenue

accounting deals not simply with sales prices as such, but with a quality, which is definable as the monetary productivity of properties to particular business and of which sales price is one evidence and measure. It follows that where sales price is not an accurate measure of that particular value it may be rejected in spite of the fact that it is actual and objective. Where market or estimated sales price or any other criterion serves as sufficient evidence and correct measure of that particular value it may be acceptable in spite of the estimated and subjective character of the measure. The accounting process is truly one of matching two streams of prices but only in so far as they serve as acceptable evidence and measure of value and cost to particular concerns.

The meaning of cost in accounting has been somewhat tied down quantitatively to actual cost price and qualitatively to sacrifice of either money or property. Cost, in other words, is not only a payment or sacrifice measure, but at the same time it is said to be actually a measure of something sacrificed or expired. However, in the entire business process of acquisition, production, and selling, there is really no property sacrifice or expiration except in the sense of physical transformation and except where property is dissipated without any value return. It is therefore not accurate and true to describe cost as a mere sacrifice or expiration. Money or property sacrifice may provide the measure of cost, but the thing measured is always positive service of value. And strictly speaking even the measure of cost is not a sacrifice measure; it is more correctly described as an investment measure.

It is submitted that cost in income accounting is a positive concept which should be carefully distinguished from cost in any of its negative or sacrifice senses, and from the economic concept of opportunity cost or value sacrifice. The significance of cost to economics is as a measure of all the resistances that must be overcome to make production possible or all the opportunity sacrifices that must be compensated to make production in particular channels economical. The significance of cost to accounting is that it is a measure of value commitment in the business process which gives the basis for comparing investment and return, that is, for determining private

income.

In economic analysis cost might mean sacrifice in the ultimate sense of human sacrifice or effort. In business and accounting analysis, cost may not be resolved into human sacrifice; and strictly there is no sacrifice even in the financial sense except in the case of uncompensated investment or unrecovered costs. In economics, cost in the price influencing sense may be measured by present value or opportunity value sacrifice; but in accounting, in determining absolute private income, present value is the positive factor, not the deduction factor.

The alternative to the second proposition may be stated thus:

b. Accounting for income and capital deals with two measured qualities: value and cost. Value in accounting is the positive importance of properties in view of their monetary productivity to particular business and is measured as a quantity of money units realizable from particular property in the course of business. Cost in accounting is the positive importance of properties in view of the value previously committed to them, and is measured as a quantity of money units invested, or imputed to be invested, in properties of various stages and forms.

3. Revenues are recognizable when realized through sale of enterprise products and are measured by the sales prices indicating the amount of new assets received from outsiders.

This proposition sets several limitations to the concept of revenue. First, it limits the scope of revenue to those resulting from the sale of enterprise products to the exclusion of gifts and other windfall receipts and proceeds from sale of capital or investment assets. Since all positive factors entering into income determination are of the same basic nature, none of them should be excluded from the category of revenue or designated by entirely different terms. Second, within the scope of revenue as realized value of enterprise products, it excludes those products unsold but whose value and value gain are fairly determinable, and in that sense equally real or realized, as in the case of farm crops, nursery stocks, and other basic

commodities and securities on national and international markets. These are no longer exceptional cases. Theory should be revised to include them. Hence, the proposed alternative proposition:

c. Revenues, the positive factors in income determination, are the value aspects of properties measured and recognized during a period of time. They are recognizable when (1) the value of properties can be ascertained through sale or evaluation as a quantity of money units realizable in the course of business, and (2) the total assignable cost of the same properties sold or evaluated can be ascertained with reasonable accuracy.

4. Revenue charges are the cost or sacrifice involved in securing revenue, and are measured by the sum of the assignable actual prices of (1) services and service agents that have become embodied in the products sold, and (2) services and service agents expired in connection with the sales.

Cost in accounting can not be divorced from a positive thing even in determining cost of revenue. It is absolutely necessary that the thing of which revenue charges are a cost measure must have value and a measured value quantity (from zero up) so that gain or loss may be determined. Goods need to be given up in the trading process, but again the sacrifice or giving up of physical goods is not the essence of revenue charges. The physical expiration of goods from the business may provide part of the measure of revenue charges; but the measure of revenue charges is not the thing of which revenue charge is a cost price measure.

To define revenue charges as cost of goods given up or property expired in connection with the sale of goods is to limit the scope of revenue charges to only part of the negative factor in income determination. Since all deduction factors entering into income determination are basically of the same nature, none of them can be excluded from the category of revenue charges or designated by entirely different titles. The usual definition excludes from the category of revenue charges the cost of capital or investment assets sold and the cost of those goods and properties unsold, whose cost and value quantities are fairly determinable and therefore legitimately

enter into income determination.

The concept of revenue charges as property or cost expiration is not clearly distinguished from loss which is strictly not cost of revenue. It opens the door to cost tinkering and loss anticipations on the ground that they are costs expired or unrecoverable. Fundamentally, for any part of cost to be allocable as revenue charge it must be a measure of a certain positive thing with a currently ascertained value quantity. To permit any cost to be written off as expired or lost, the accountant must demand the evidence and measure of a value quantity of some positive property or portions of property of which the so-called loss is a measure of unrecovered investment.

The proposed alternative proposition is:

d. Revenue charges, the deduction factors in income determination, are the investment aspects of those properties whose values have been ascertained and recognized as revenue of a period; they are recognizable when (1) the investment quantity of the property elements embodied in the products and other properties sold or evaluated, or connected with the sale of the properties, can be accurately ascertained from the actual or estimated acquisition prices of properties, and (2) the value quantity of the same properties of which revenue charges are the investment measure can be accurately determined from their actual or estimated sale prices.

5. Depreciation is the cost of fixed tangible properties consumed in business operation, and is measured by the assignable actual prices of the portion of service content or service life of properties expired as a result of use, passage of time, and technical progress that renders the properties economically less effective.

The idea of money or property sacrifice as the essence of cost is carried to its logical extreme in the area of depreciation accounting. Here, depreciation as an element of product cost is not recognized as what it is—the cost measure of plant services materialized and entered into production—but almost invariably it is given a negative definition: loss or expiration of property, of property cost, or of property value. The measure of the thing (extent of expiration, of physical or service life) is thus taken for the thing measured (positive

services entered into production.) But the issue here is not one of whether depreciation should be approached negatively by asking how much of the service content has been expired, or approached positively by asking how much of the services has been materialized and entered into production. It is an issue of the meaning of the thing of which depreciation is a measure.

From the point of view of accounting for cost of goods manufactured, the thing which enters into production and which is the object of measure can not be anything but plant service. But from the point of view of accounting for property sacrifice, the thing sacrificed and measured could be physical property, service content, service life, property cost, or property value. Since the orthodox theory of depreciation is indefinite on this essential point, it is subject to the following criticisms:

1. It fails to define the thing of which depreciation is a cost price measure. It defines the thing in terms of its measure—property or cost "expiration."

2. It usually assumes that the thing subject to expiration is economic life or service capacity. But economic life or service capacity expiration as such is not the essence of either positive product cost or financial loss. To measure depreciation as the portion of service life or service content expired during a time period does not solve the problem of accounting for cost properly assignable to product; it raises the insoluble problem of segregating and treating the cost of that portion of service life or service content supposedly expired, as a result of other causes than use, but not assuredly a financial loss.

3. Since service life or capacity expiration is a function of use, obsolescence, time lapse, and many other independent variables, and since the cause of expiration can not be traced and measured by its separate causes, accounting for depreciation as such assumes that the combined effect of the several causes of property expiration conforms to certain theoretical pattern of property expiration either increasing or decreasing or constant. Such measures of depreciation are again of no significance as a basis for figuring either product cost or investment loss, not to mention that the assumed pattern of

property expiration will hardly conform to the actual pattern.

4. When the constant pattern of property expiration is assumed, accounting pictures depreciation as a fixed periodic cost which is not responsive to changes in business volume or activity. It is a valid charge, therefore, that in so far as accounting creates artificially constant periodic depreciation which in turn creates artificially fluctuating income figures, it gives an exaggerated and misleading picture of business fluctuations.

The issue of depreciation as an element of product cost lies properly in the feasibility of accurate estimate of the total quantity of services—in terms of certain service units or activity units such as working hours, materials handled, mileage run, units of goods possessed or turned out—actually to be yielded by particular assets. The argument is therefore largely futile as to which of the independent variables, economic service life in terms of years or the total quantity of services to be materialized and entered into production, is the most difficult to estimate. Assuming the relative easiness of estimating economic life in terms of years, that alone does not justify the time basis of depreciation; and in so far as the data of economic life in terms of years and of average yearly service yielding of assets are available it renders the only theoretically sound basis of depreciation accounting practically the more feasible.

Hence the proposed alternative proposition about depreciation:

e. Depreciation is the investment aspect of plant services materialized in the process of business operation; it is measured by the actual prices of installing and servicing the plant assets and as a function of production or activity of a business during particular periods of time.

6. Inventories are the cost of property elements (material, labor, and factory overhead) embodied in the existing stock of enterprise products in their various stages of completion. To interpret inventories as current value type of asset, to use any replacement or selling market or combined cost and market bases of inventory valuation, or to assume any pattern of flow of materials and goods through the enterprise not substantially in accord

with the actual pattern of flow—these tend to misfigure the cost of goods sold element of revenue charges. They introduce unrealized gains and losses into the income figure and are therefore objectionable.

Three points may be made on the problem of inventory as a factor in income determination. First, the inventory problem is not entirely divorced from the problem of valuation. Where realizable value and total assignable cost (including selling cost) can be fairly estimated, inventory value and value gain may accordingly be recognized. Second, where inventory is damaged or rendered unsalable or obsolete so that a part of the investment in those goods is definitely lost, then again an estimate of its final realizable value together with the additional cost of disposal may be measured and recognized. Third, the fundamental difficulty of more timely recognition of inventory loss lies not in its involving valuation of inventory or in the undesirability of recognizing unrealized gains and losses, but rather in the impossibility in most cases of accurately forecasting both the selling prices and the total assignable cost including future selling costs to be incurred. Replacement cost is not an acceptable yardstick for measuring unrecoverable cost. This is true, not because it substitutes a current value for a cost figure, but rather because replacement cost is not an accurate index of the value of enterprise product or product part, and because even if the replacement cost change indicates sales price change, so that sales price can be gauged from replacement cost level, the correct measure of loss requires the correct estimate of not only value but of total assignable cost including selling cost which incidently is most difficult to figure.

Hence the alternative definition proposed:

f. Inventory is the investment aspect of the physical stock of enterprise products in their various stages of completion, whose values have not been recognized as revenue of any period; it is measured by the assignable acquisition prices of all the property elements which are conceivably embodied in the products or employed as facilitating factors in connection with the creation of utilities in the broad economic sense.

7. Distribution costs are the cost of properties consumed

in the process of converting finished products into new assets; they are not assignable to product cost as such but separately inventoriable to the extent that the effect of such costs upon sales or revenue lies clearly in future periods.

The concept of production may be broadened and that of distribution correspondingly narrowed. According to economic analysis production may legitimately be interpreted to mean the creation of utility—utility which is socially demanded. Accordingly a part of distribution cost which is instrumental in creating time or place utility may duly be allocated as product cost. So are portions of general and administrative costs necessarily involved in production.

From the standpoint of the individual business enterprise, the concept of production may be further broadened and pushed beyond the scope of socially demanded utility creation. To the individual enterprise utility creation becomes essentially the same as value creation. Product from the private business point of view, in other words, is a conglomerate of materials, services, and conditions connected with the creation of value.

Theoretically then, there is logic and meaning even in assigning cost of creating and diverting demand as product cost, production and selling being identified both as value creation from the private business point of view. That there should be a distinction between production and selling costs is due chiefly to the fact that the quantity of selling services which apply to particular units or quantity of physical products, which is the basis of cost allocation, is extremely variable and practically unidentifiable. The quantity of services which apply to products in the sense of the embodiments of social utility created, on the other hand, is strictly a function of the volume of technical production. The total cost of such services entered into technical production may logically be averaged out and assigned to similar units of product as such. Cost of selling in the strict sense of creating and diverting demand may not be so averaged; it has to be separately assigned in totality between periods.

If selling costs are limited to salesmen's commission and if such commision is allowed on a fixed rate per unit of prod-

uct sold basis, then there is every reason to assign the unit selling cost onto product cost. The larger part of selling costs, however, is not of this nature. The cost of long range advertising campaign, for instance, can only be assigned more or less arbitrarily to products of different periods.

In spite of the inherent difficulty of allocating cost of selling it is nevertheless true that revenue charges accounting can be materially improved by recognizing the basic similarity between the different groups of costs functionally assigned and classified, by broadening the concept of production, and by allocating and routing more and more items of general, administrative, and distribution costs through the inventory process.

The proposed alternative proposition on distribution cost is:

g. Distribution costs are not unassignable as product cost. But in asigning distribution costs to products as such there should be a distinction between those distribution costs which are instrumental in creating time and place utilities and others which are utility creating only in the sense of demand or value creating from the individual enterprise point of view. The latter kind—selling cost, per se, may be defined as the investment aspect of those property elements which entered into the activities of creating present or future demand for enterprise products, and is measured by the actual acquisition prices of services, or service agents materialized into services, entered into the selling activity during a period of time. Selling cost so defined and measured is, like production cost, subject to inventory or deferment to the extent of the cost of those selling services which apply to existing products whose values have not been recognized as revenue and to products of future periods.

8. The periodic income account should reveal all changes in assets currently recognized except (1) those resulting from purely capital and equity transactions, and (2) those belonging clearly to gains and losses of the

past periods now to be adjusted directly through surplus and to be duly disclosed.

Recognized asset changes resulting from non-capital transactions are not always income determining factors in the sense of true value gains and investment losses. Corrections of past estimates of revenue and revenue charges are by definition corrections of what are really the false part of past reported gains and losses. Being corrections or adjustments, they should be differentiated from true positive and negative factors in current income determination.

The so-called realized capital gains and losses traditionally measured as the difference betwen the "book value" and final disposal value of "capital" assets are largely false gains and losses resulting from false estimates of the final disposal value and of the total "depreciable cost." Being adjustments for past estimates of revenue charges, they are not true gains and losses of either current or past pariod.

When income is defined in the broadest sense of value gains of all types and forms, and of all functional sources and time origins, ascertained within a period of time, then no true gains and losses currently ascertained and recognized can be considered as outside of the current income picture. For practical purposes, of course, the difference in type and origin among the gains and losses should be recognized and brought out as far as possible by sectionalized income statement. But since all the recognized gains and losses of different types and origins are basically of the same nature from the standpoint of a broad income concept, and since false gains and losses are excluded, it should be possible, through intelligent classification and grouping, to piece them together into a meaningful whole. Only the whole of ascertained gains and losses represents an approximation of the theoretic income quantity as a periodic value gain. Hence the proposed alternative to the orthodox proposition about revenue vs. surplus charges:

h. The income account should reveal gains and losses of all types, forms, functional sources and time origins ascertained as the difference between difinite value and cost measures of products and properties of a business sold or evaluated during a period of time. Recognized property changes resulting from

non-capital transactions which are not true gains and losses but only corrections of past estimates may be disclosed as such in current income account. But they should not be treated as determining factors of current income. Asset adjustments, such as arbitrary plant revaluations, representing neither current gains and losses nor corrections of past reported gains and losses should not be allowed to affect either current income or surplus determination.

To recapitulate the alternative propositions:

a. Business income is a periodic gain measured by the excess of value of enterprise products and other properties, ascertained through sale or evaluation, over and above the total assignable cost of the same products and properties sold or evaluated.

b. Accounting for income and capital deals with two measured qualities: value and cost. Value in accounting is the positive importance of properties in view of their monetary productivity to particular business and is measured as a quantity of money units realizable from particular properties in the course of business. Cost in accounting is the positive importance of properties in view of the value previously committed to them, and is measured as a quantity of money units invested, or imputed to be invested, in properties of various stages and forms.

c. Revenues, the positive factors in income determination, are the value aspects of properties measured and recognized during a period of time .They are recognizable when (1) the value of properties can be ascertained through sale or evaluation as a quantity of money units realized in the course of business, and (2) the total assignable cost of the same properties sold or evaluated can be ascertained with reasonable accuracy.

d. Revenue charges, the deduction factors in income determination, are the investment aspects of those properties whose values have been ascertained and recognized as revenue of a period; they are recognizable when (1) the investment quantity of property elements embodied in the products and other properties sold or evaluated, or connected with the sale of the properties, can be accurately ascertained from the actual or estimated acquisition prices of properties, and (2) the value quantity of the same properties of which revenue charges are the investment measure can be accurately

determined from their actual or estimated sale prices.

e. Depreciation is the investment aspect of plant services materialized in the process of business operation; it is measured by the actual prices of installing and servicing the plant assets and as a function of production or activity of a business during particular periods of time.

f. Inventory is the investment aspect of the physical stock of enterprise products in their various stages of completion, whose values can not yet be ascertained and recognized as revenue; it is measured by the assignable acquisition prices of all the property elements which are conceivably embodied in the products or employed as facilitating factors in connection with the creation of utilities in the broad economic sense.

g. Distribution costs are not unassignable as product cost. But in assigning distribution costs to products as such there should be a distinction between those distribution costs which are instrumental in creating time and place utilities and others which are utility creating only in the sense of demand or value creating from the individual enterprise point of view. The latter kind—selling costs, per se, may be defined as the investment aspect of those property elements which entered into the activities of creating present and future demands for enterprise products, and is measured by the actual acquisition prices of services, or service agents materialized into services, entered into the selling activity during a period of time. Selling cost so defined and measured is, like product cost, subject to inventory or deferment to the extent of the cost of those selling services which apply to existing products whose values can not yet be ascertained and recognized as revenue and to products of future periods.

h. The income account should reveal gains and losses of all types, forms, functional sources, and time origins ascertained as the difference between definite value and cost measures of products and properties of a business sold or evaluated during a period of time. Recognized property changes resulting from non-capital transactions which are not true gains and losses but only corrections of past estimates may be disclosed as such in current income account. But they should not be treated as determining factors of current income. Asset adjustments, such as arbitrary plant revaluation, representing neither current gains and losses nor corrections

of past reported gains and losses should not be allowed to affect either current income or surplus determination.

In contrasting the two sets of propositions about revenue charges set forth above, a few points of difference are outstanding and important enough to warrant restatement and emphasis.

First, there is the difference over the concept of revenue, the positive factor in periodic income determination. The orthodox theory, defining revenue and income in terms of assets and emphasizing objective determination of the revenue quantity holds that revenue accounting deals only with sales prices accompanying actual exchange transactions and that subjective valuation of unsold properties is out of place in income determination. The present writer, emphasizing the definitive as well as the measurement aspect of revenue, holds that revenue is essentially the value aspect of business properties which need not be defined in terms of assets and that actual sales price is only one evidence and measure of that value aspect.

If it is accepted that accounting deals not with mere quantities or mathematics but with measured qualities, and that revenue accounting deals with certain qualitative aspects of business property of which actual sales price is supposed to be its measure, then scientific accounting calls for a clear definition of that particular quality of business property as a basis of quantitative measurement. In defining that quality it will be found that the essence of revenue is not value in the sense of the relative importance of properties as determined by the market or exchange process, but value in the sense of monetary productivity of properties to particular business, and that actual sales price is an acceptable measure of revenue not because it is an objective valuation agreed upon by two independent parties but because it is a fair index of the quantity of money units realizable from particular property by particular business. As an index of property value to a particular business, actual sales price may not be identified with value itself; nor can it be considered an infallible or the only appropriate index. Revenue accounting, therefore, does not have

to accept the actual sales price limitation imposed by orthodox accounting theory. And since practice does often reject actual sales price where inappropriate and accept in turn other evidences and measures which have a bearing on the value of properties to particular concern, a plea may be made that theory be revised to meet both logical and practical requirements.

The second difference between the orthodox and the present writer's theory, which is the crux of controversy so far as revenue charges accounting is concerned, lies in the concept and measure of cost in its various aspects.

Under the orthodox theory, cost is primarily a negative or sacrifice concept. The cost basis of asset and income accounting is defended almost invariably on the ground that it represents the actual sacrifice experienced by the business or its investors. Positive property items are often called "capitalized expenditures," as distinct from revenue expenditures. Cost accounting is considered a matter of tracing and recording "property consumption" or "cost expiration." Positive service elements are described by such negative terms as "depreciation," "depletion," "amortization," "overhead costs" and "expenses."

The present writer holds that cost like revenue can be and needs to be defined both qualitatively and quantitatively. Qualitatively cost, like revenue, is a positive concept; it is the positive importance of properties not in the forward-looking or value sense, but in the back-looking or investment sense. Cost, in other words, is the positive importance of business properties in view of the value previously committed to the properties. As such it is measured quantitatively by the amount of money units originally invested in properties purchased or, in later stages of utilization and sale, by the amount of money units imputedly invested in various transformed properties.

Note that the difference between the orthodox and the present writer's concept of cost is deepr than one of emphasis on the quantitative as against the qualitative nature of cost. The orthodox theory, emphasizing the objective determination of the cost quantity by actual exchange transaction, but leaving

undefined the qualitative aspect of cost, usually gives the implication that cost is not only a negative or payment measure but a measure of property sacrifice or expiration. Property sacrifice or expiration in turn is interpreted to mean either outlay expiration, or investment expiration, or opportunity value sacrifice, or physical consumption, or service life or service content expiration. Because logically there is no such thing as "outlay expiration," nor is the business process of acquisition, production, and selling essentially one of "investment expiration," and because opportunity cost is clearly irrevelant for purposes of measuring absolute private income, property expiration can only mean property transformation or consumption in the physical and functional senses.

It is true that in business money has to be disbursed in acquiring services and service agents; these services and service agents in turn have to be "consumed" in the process of production and selling; and products have to be delivered and given up in the trading process. But these are mere sacrifices of investment forms which accompany the utilization and conversion of properties in the business process. Property expiration in the physical or functional sense is not the essence of either positive cost elements or financial loss; the measure of property expiration as such is insignificant as basis of accounting for either cost or loss. The things measured and given cost quantities are always positive services, or properties materialized into services, which actually go into the process of production and selling, and which in their finished product or effective selling service form will eventually bring in revenue. The most useful connotation of cost for purposes of income accounting is, therefore, the positive importance of business properties, in their various stages and forms, in view of the amount of value units actually or imputedly invested in them.

This divergence in the concept of cost (a positive vs. a negative quality) has profound repercussions upon the methods of approaching the measurement of cost and upon the ultimate quantitative measure of revenue charges. Under the negative theory of cost, depreciation is measured as a function of use, time, obsolescence, and all other factors causing

property expiration in either financial, or physical, or functional sense. According to the positive theory of cost, "depreciation" is a misnomer. As a positive element entered into production and selling, it should be called cost of plant service and measured as a function of production or activity. Under the negative theory, several methods of figuring depreciation—time methods, interest methods, production methods, combination methods,—are considered logical alternatives. According to the positive theory all depreciation methods and formulas assuming a fixed pattern of property expiration, either increasing, decreasing, or constant, become logically irrelevant.

Under the negative theory, product cost is measured as the sum of material and labor costs of manufacture plus a portion of overhead expenses which is reasonably assignable to the product according to a certain technical standard or normal cost quantity; the unassignable or unabsorbed part of overhead costs being considered as a sunken investment and a separate charge against current revenue. Under the positive theory, the total "amortizable costs" of properties whether directly or indirectly connected with the productive activities are assignable as product cost; no part of investment can be segregated as being expired or sunk except in the case of accidental destruction or identifiable dissipation without value return. In short, under the negative theory, cost can be a mere quantity, a mere cost price measure, a mere property expiration; it can even be a loss. Under the positive theory, cost in any of its several stages and aspects, can not be divorced from positive service or property elements; it is always the investment aspect of some positive service or of some measured portion of properties converted or transformed.

These contrasts between the concepts of revenue and cost lead to a third point of difference between the orthodox and the present writer's theory, the difference over the issue of the essence of accrual method of income accounting. Under the orthodox theory, the accrual of revenue and revenue charges is literally a "matching" of two separate series of incoming and outgoing properties. Under the writer's theory,

revenue and revenue charges are but two aspects of the same property items. Under the orthodox theory, the basis of associating revenue and revenue charges is the observed cause and effect, or effort and accomplishment, relationship between the two streams of incoming and outgoing properties. Under the writer's theory, the basis of association lies in the quantities of services, or portions or properties materialized into services, which enter into both calculations of revenue and revenue charges. Under the orthodox theory, revenue and revenue charges are separately and independently measured and recognized as property inflow and cost outflow. Under the writer's theory, no part of cost or investment can be recognized as revenue charge without ascertaining and recognizing the value of the same property item as revenue, and vice versa. Under the orthodox theory the basic questions in measuring and recognizing revenue and revenue charges are: When do revenues become realized, and When do properties expire and become expense? Under the writer's theory the basic questions are: How accurately do we need to measure the value and investment aspects of properties in income determination, and Are both value and investment quantities of enterprise products and properties accurately measureable, according to the quantitative definitions and measurement standards of revenue and revenue charges, for entry into the current income picture. Under the orthodox theory, loss is an estimate of a portion of property expired but unassignable as effective cost according to a certain technical standard or normal cost quantity. Under the writer's theory, loss is necessarily the resulting measure of an assigned investment quantity of some positive property or property part matched against an ascertained value quantity of the same property. And finally, under the orthodox theory, any recognized asset change except those resulting from purely capital transactions are genuine gains or losses; "realized capital gains and losses" on depreciable properties for instance. Under the writer's theory, gains and losses resulting from inaccurate past estimates of final disposal value and of total "depreciable cost" of properties are not true gains or losses of any period; and other adjustments of book value not reflecting definite revenue

or revenue charges and divorced from positive property items are sharply distinguished from income determining factors.

Perhaps none of the points here advanced is new or non-Euclidean; most of them have either been hinted by writers on accounting or demanded by accounting practice. But, after all, accounting theory consists largely in defining, organizing, and interpreting known aspects of business situations, with a view that accounting measures may become increasingly scientific and dependable, rather than in the independent discovery of raw facts hitherto unknown.

VITA

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